

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: km@PACT.ORG.PE (Kris Merschrod)
Subject: [1571] 30 meters in the evening
Message-ID: <m0tS0tQ-0000BuC@rcp.net.pe>

Chuck,

Sorry that the digest arrives here after hours,

I've been dropping down to 10.103 because at 106 there is some sort of steady noise and above we have SSB - lids down here.

I've also been trying the sunset grayline to see what has been happening -- not much!

What amazes me is that local operating habits in regions make the band allocation sketchy at best.

CUL

Kris
OA4DBO

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: kreinbd@ccgate.dl.nec.com (David Kreinberg)
Subject: [1572] 40M DULDRUMS - TNX!
Message-ID: <9511198193.AA819387891@smtpgw.ccgate.dl.nec.com>

Gang:

Thanks to all who've responded about my whoas on 40M lately. Sounds like I'm not the only one who's had no joy.

This morning it occurred to me to rise my lazy butt out of bed a few minutes early and try 40 before work.

Low and behold, a bunch of S8/S9 sigs all around calling CQ. Gave a W9 a call and he returned a 579 to me from Minnesota. Guess my rig and ant. are working!

Maybe I just need to adjust my op time to early morning, early evening hours. I figured the 8 - 10 pm local time

might be best, but this is where I
seem to get a big "null" to my calls.

I need to learn that the HF ham bands
aren't required to accommodate my
"comfortable" op. times. I may need
to bow to what nature and the mighty
ionosphere dish out.

Oh well, another rookie ham lesson
learned!!

Enjoy & Season's Greetings

Hey Chuck, how'd your EXP II do on
30M last night? We're waiting with
frosty breath (It's coooold in Dallas,
folks!!)

72/73 de Dave KK5HA
QRP-L #25

From qrp-l@lehigh.edu Tue Dec 19 21:15:18 1995
From: bfinch@asp.vet.purdue.edu (Robert Finch)
Subject: [1566] antenna message corrections
Message-ID: <9512191029.AA26647@asp.vet.purdue.edu>

I feel a need to make some observations about the last several months of antenna,
feedline, and swr messages. Some of us have

spoken in absolutes WITHOUT benefit of physical truth. In other words, we have
been dishing out a load of bull. I

just can't sit by any longer, after all I'm only human. (Hi)

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has been inaccurate or just plain wrong somehow on something.

I think I may know why. The authors of these messages

might consider reviewing the contents before rushing to post a

message here. (And I don't mean grammar or spelling.)

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I try to avoid getting anxious and make it a point to check thru what I am writing. By then someone who stays well focused

generally beats me to it. Hi. (A remaining problem is my being too terse and that can lead to confusion.)

I also write privately to authors with corrections, with the hope they will, at the least, correct future info in their messages. (I didn't care to appear to publicly step on anyones toes here.)

2) Bravo to Rick, WZ2T, for his excellence in pointing out

that if it is 50 ohms (pure resistive) at the transmitter; there is no 'fooling of the transmitter' going on. More below.

3) The BEST source for an education on this stuff is REFLECTIONS by Maxwell, W2DU de the ARRL. It is written so

any ham can understand the contents. Really.

As a bonus you will learn not only how to do Z matching

with a smith chart, but the whys and hows of material

covered here on QRP-L the past several months. You'll also know when the experts in print are full of you know what.

(And no I am not Walt Maxwell's relative. No financial interest involved for me. But I wish I did!)

4) Paul, KB8N, was absolutely right about being careful to insure that the 1:4 balun typically found on tuner outputs should be matched themselves to a close approximation of the design Z. Because this isn't often easy to do, a better solution might be putting a 1:1 CURRENT balun on the tuner's input port. If you tune up at low pwr., then the balun will be working at it's rated Z, and PROBABLY more efficiently.

5) SWR can APPEAR to change due to rf traveling along the outer surface of the coax. This is perhaps one of a few areas of the above mentioned book that is too terse. It is complicated to explain in more detail, or at least makes for a lengthy discussion.

The IMPORTANT point here is that measuring swr can be difficult, or at least INACCURATE with rf traveling along the outer surface of the coax.

6) Again, there is no 'fooling' involved here. Power is transfered well when the transmitter is well matched. We

facilitate this match by using Z transformers. These are typically tuners and/or series section tranformers (made from lengths of transmission line of a desired Z). Someone else pointed this out I think. But I'm not sure who. (Phil, AD5X ?)

(By the way, the 1/4 wave and 1/2 wave length lines are special cases of the series-section xformers.)

7) If you understand nothing else understand the following.

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OF A TRANSMISSION LINE,

AND

CHANGING THE LENGTH OF A TRANSMISSION LINE TO EFFECT (AFFECT?)

A MATCHED CONDITION AT THE TRANSMITTER.

(One of the authors used an example of a MATCHED line
with a swr of 1:1, and concluded that since changing the line's length
didn't change the swr;

matching by line length wasn't possible. This is

a good one to ponder. When you really understand this

stuff, you'll understand why the author was wrong

in his conclusions.)

8) There was mention that a antenna tuned to resonance
being the most desirable way to achieve a matched
condition.

Not so again. There are numerous concerns including radiating
pattern(s), layout and sizing constraints (sp?), interaction

with other (metal/conductive) structures, and more which can come into play. An
engineer may well juggle these factors and come up with an antenna which performs
excellently in all desired ways, be super efficient, AND be resonate nowhere near
the desired

Basically a resonant antenna may be less involved to match to the transmitter. BUT THAT DOESN'T MEAN THIS IS THE BEST WAY TO ACHIEVE A MATCH TO THE TRANSMITTER. OR THAT MATCHING THE ANTENNA BY MAKING IT RESONANT ASSURES A LOW SWR.

OR THAT HAVING LOW SWR IS ALWAYS THE BEST POSSIBLE ANTENNA SYSTEM.

(Length of the antenna elements should be of some minimum (sp?) length to be of sufficient efficiency, but effectiveness is ENGINEERED into the antenna.)

Anyways happy chanukkah AND

Best 72's (I got my flame suit on and the trenches dug.)

If you are one of the many fine engineers on this list that

have mentioned some of the above here before, and I didn't give you any credit, I publicly appologize. This may well

have all been covered here before, but I felt it needed to

be covered again, all at once, now.

Oh yeah, before I forget;

9) I think I know who Kurt N. Sterba is. I will search anew

if someone who REALLY knows sezs it isn't a 8 call with a

real first name of Kurt.

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I also have moldy paperwork hung on my walls attesting to time spent attending to some teacher's stroking. I like working in the real world. Understanding DOES count, not just marking the 'right' answer.

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: wynnt@utkux4.utk.edu
Subject: [1578] antennus pontificatus
Message-ID: <wynnt.114.0009075B@utkux4.utk.edu>

Hey,

It might be nice if the antennus pontificatus gave the QRP(?) list a break and took the SWR/Feedline debate over to the R.R.A.A. newsgroup where it would be appreciated. Then just post a few lines here to say something like, "Hi gang, if you really want to get the lowdown on the SWR of a 200 ohm coax feeding a 1000 ohm isopole, at 5 degrees from the feed point, look over there on R.R.A.A. where Kurt N. Maxwell posted the facts." Failing that, if they cannot help themselves and feel they must really torture this captive audience, how about editing down before posting. We know it helps to see it in print. Just try to snip it out before posting. Ladies would have fainted at this offering before editing!

Surely there are at least a few QRP enthusiasts left here who would appreciate constructive directions on how to build, buy, or fix efficient antennas and feeds that deliver the maximum signal strength to the intended recipients and would not frighten the neighbors in the process. This should not necessarily lead to droning threads about who can have the last word or post the most lines on the fine points of the subject, then correct those lines, then correct the corrections, etc.

Lastly perhaps we should not bait the antennus pontificatus by posts such as "Oh, Pleeze Mr. Wizard, help me get rid of the bad old SWR on my feedline. Should I just shorten it?" Unfortunately this has become akin to shouting FIRE in a crowded theater.

Happy holidays,
wynnt

From qrp-l@lehigh.edu Tue Dec 19 21:15:18 1995
From: weinfurtner@ouvaxa.cats.ohiou.edu (Greg Weinfurtner)
Subject: [1591] Care and Feeding of Deep Cycle Batteries?
Message-ID: <v01510100acfc56fd2a6b@[132.235.72.11]>

Hello gang,

Does anyone have a e-mail or WWW adr for some in-depth information on care of Deep Cyle Lead Acid Batteries? Such as: charging rates for long life, trickle charging methods, allowable discharge rates, etc. I recently purchased a big one for rig back-up and I've got it on a CV charger set at 13.5 v. So I'm not real concerned now, but I want to treat it nice so it will be nice to me!

Since most of us use batteries (or so it seems on this list) I think it would be a topic of interest. Here is a good one...I haven't really read it yet...just now looking for info.

<http://nyquist.ee.ualberta.ca/~schmaus/dcbat.html>

Thanks! 73 de

```
*****
*                                     Greg Weinfurtner AEE BSS *
*      NN      N      SSSSSSS      8888888      0000000      Electronic Design Splst *
*      N N      N      S           8      8      0      0      Ohio University Athens *
*      N N      N      SSSSSSS      8888888      0      0      GO BOBCATS! *
*      N      N N           S      8      8      0      0 *
*      N      NN      SSSSSSS      8888888      0000000 *
* * * * *
*      Amateur Radio          Can thou send forth lightings *
*                               that they may go and say unto *
*      weinfurtner@ouvaxa.cats.ohiou.edu thee, 'Here we are'? Job 35:38 *
*****
```


From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: bfinch@asp.vet.purdue.edu (Robert Finch)
Subject: [1565] certificates
Message-ID: <9512191027.AA26644@asp.vet.purdue.edu>

more wonderfully colorful wallpaper is still available
to all norcal memebbers...it is red and black on brown
with your year of membership, name, call, and memebbership
number predominately displayed.....and it is still ONLY
two and half bucks postpaid to your door by the us snail..
send to me n6cxb at my callbook address.....

just ask all those that own one (like chuck adams)....
iit is the pride and joy of their ham shack walll

this is a serious offer made not so seriously.....
and is an APPROVED norcal dealy...even if this announcement
aint.....hi
baab,n6cxb

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: bcutter@teal.csn.net (Bob Cutter)
Subject: [1585] Club Project Suggestions
Message-ID: <199512191726.KAA19886@lynx.csn.net>

Last year we built the TenTec Regenerative Receiver Kit. Very successful
and I have a request for more. Any suggestions?

72, Bob KI0G
END

Bob Cutter,Glenwood Springs, CO

KI0G

bcutter@teal.csn.net

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: bfinch@asp.vet.purdue.edu (Robert Finch)
Subject: [1568] CORRECTED antenna message corrections

Message-ID: <9512191223.AA26714@asp.vet.purdue.edu>

SOMEHOW MY MESSAGE GOT CORRUPTED IN THE MAIL ETHER....
HERE IS (SUPPOSEDLY AND HOPEFULLY) THE CORRECT VERSION
SORRY ABOUT THIS....BAAB,N6CXB

I feel a need to make some observations about the last
several months of antenna, feedline, and swr messages. Some
of us have spoken in absolutes WITHOUT benefit of physical truth. In other words,
we have been dishing out a load of
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From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: "Timothy J. Pettibone" <tpettibo@NMSU.Edu>
Subject: [1588] FOX Schedule for 26 Dec (local) - 1st notice.
Message-ID: <Pine.A32.3.91.951219104800.57220A-100000@hector>

Looks like I'll be in San Diego on the 26th. The FOX schedule is:

0200-0300 7110 KHz +/-
0300-0400 7040 KHz +/-

Now, the 26th local (PDT, MDT, CDT, and EDT) is REALLY the 27th UTC.
But, I'll be working my mobile QRP+ with the HAMSTICK on the van on
Tuesday evening (the day after Christmas and 8 days after Hanukah). Look

for me. Maybe I'll have lots less noise! Happy holidays.

Tim AB5OU
usually in Las Cruces, NM

p.s. I may try to get up a dipole.

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: KT3A@aol.com
Subject: [1559] FS: Sony ICF-SW7600
Message-ID: <951218215853_93967975@mail04.mail.aol.com>

Mike is selling some radio gear to make room for his Omni.
Sorry, the Kenwood TS-120V went before the end of the meeting.
Sony ICF-SW7600 \$150 New condition

D.A. "Mike" Michael, W3TS
PO Box 593
Halifax, PA 17032
(717)896-3973 After 4:00 EST

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: ljones@why.net (ljones)
Subject: [1564] Help
Message-ID: <19951219075052188.AAA221@dal13.why.net>

Greetings Gang...

This is primarily to David of kreinbdg@??? I am sorry to take up the space, but I seem to have gotten David's address wrong and I had a msg bounce. David, please send me your correct email address. I believe that I can help you.

72/73

dee-it dee-it (Texas Accent)

Larry n5osg

Larry Jones N5OSG NorTex QRP-ARCI G-QRP NorCal MI-QRP NE-QRP
4028 Random Circle
Garland Tx 75043-3250

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: V\$BCIESLAK@china.qgraph.com
Subject: [1581] I dunno
Message-ID: <01HYZM3E24R600BJYA@hub.qgraph.com>

Geez...I don't know what to talk about...seems that knowmatter what I might be interested in will upset at least 10 people on the net....Just like our local repeater.

AE9K
monitoring with apparently nothing interesting enough to say.

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: KE3FL@delphi.com
Subject: [1594] Interesting Questions
Message-ID: <01HYZTWIZYIM9I4UCA@delphi.com>

Folks-- With the help of Paul/NA5N who gave us a nice table (oh, one correction, the equ for a full wavelength should be:
Coax length (ft.) = $984VF/f$ one wavelength Not: $948VF/f$.)
($3E8/E6 * 39.37 / 12 = 984.25$)
we can now figure the electrical half wavelength of coax needed to measure the SWR correctly.

INTERESTING QUESTIONS: In the ARRL book "now You're Talking" they have an 80/40 meter dipole design & they suggest using 100 feet of coax. What is the electrical half wavelength (EHWL) for 3.700 MHz and for 7.125 MHz. (Center of the Novice bands, as we all know & love.) Is 100 feet of RX-8 coax ($vf = .78$) a multiple of the EHWL for either or both of these? If not, how far off is it? Will this be dangerous for the rig?

73 de KE3FL/Phil
:-)

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: wdzeares@rockdal.aud.alcatel.com
Subject: [1595] Is FOX Tue and Wed???
Message-ID: <9512192026.AA10698@aud.alcatel.com>

Do we have the FOX on Tuesday 12/19 and again on
Wed 12/20????? Please clarify and maybe skit pthe UTC
spell it out.

Thanks, Dennis K3ETS

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: Johnson_Dan@AAC.COM
Subject: [1560] Knightlight failure in NoVA
Message-ID: <9512190751.22762.ab@SMROUTER.AAC.COM>

I tried for much of the 0300-0400 Z hour to pull any Knightlights (12/18 Z
80M QRP net) out of the noise on 3.560+ here in NoVA. Heard snippets of
signals, the only recognizable was someone calling something-"4XX" on
3.564. Heard a CQ for QNI (checkin) on 3.560, but that turned out to be
something called the "TCLN" (net) with a couple of 10-area stations. Net
control there mentioned that band condx was bad.

I'll try again next Sunday (if there will be a net on Christmas Eve) but
wanted to encourage any newcomers last Sunday to try again with me. The
difference between then and the previous week was significant. On 12/11 Z,
I arrived late (simultaneous sked) and copied over 15 QNIs at an average of
S3, excluding Paul/AA4XX's S9 net control. Most of these were off the ends
of a north/south 40M dipole, too.

Unless something went massively wrong here and I'm just broadcasting my
incompetence, if you had difficulty last Sunday, keep trying. We'll make
it eventually.

72 de KC4EWT
Herndon VA
Johnson_Dan@aac.com

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: svein@eci1.ucsb.edu (Svein Vetti)
Subject: [1599] Looking for "Radio Frequency Design"
Message-ID: <9512192232.AA10004@screw.ucsb.edu>

Hi

I am about to build a VHF receiver and I am looking for information on
mixers, oscillators and demodulators. I know that the magazine "Radio
Frequency Design" has some good articles but I cannot find a copy of the
magazine.

Can some of you please help me with their address ?

Thanks

Svein Vetti

UCSB, CA

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: bauer@hrz.uni-kassel.de
Subject: [1574] looking for surplus stuff--need help :-)
Message-ID: <9512191408.AA77594@hrz-serv7.hrz.uni-kassel.de>

hi gang...

i know the surplus stuff has a bad history.... but for fieldday and other outdoor useit's made for it... 100%.

there are some hams around in the area and we are all looking some of the following surplus short wave radios.

if any of you just give us a idea where to get just one piece of the following list we would be happy:

#1 HF-SSB/CW TRX -PRC-15- by CARVILL Telecommunications

#2 HF-SSB/CW TRX -CP34- or/and -CP44- by Canadian Marconi Company

#3 HF-SSB/CW Manpack Radio PRC-610 by ?

#4 HF-SSB/CW TRX -719D-15 by Collins/Rockwell International

#5 HF-SSB/CW TRX -SC 120 Patrofone by Southcom International Inc.

#6 HF-SSB/CW Manpack TRX -AN/PRC-119 by ITT Aerospace/Optical Division

#7 HF/VHF SSB/CW/FM Manpack TRX -AN/PRC-70- by Cincinnati Electronics

we are looking for any information

we take any offer (hopefully there are some)

if you know where to get this stuff let me know it!.... PSE !!! .-)

so tanx for reading all that dit and dots take care have a good one

=====
73 de DL 1 FDF alias VY 1 QRP
Steve from Kassel

Internet : bauer@hrz.uni-kassel.de
Packet Radio : dl1fdf@db0vfk.#hes.deu.eu
G-QRP # : 8769
QRP-L : 252
=====

/EoF/

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: bmitchel@kodak.com (Brad Mitchell)
Subject: [1600] Miles per watt.
Message-ID: <9512192234.AA10194@howdy2.cba>

Well, it sure sounds like there are a lot of categories
in this miles per watt measure.

I was more curious about the HF stuff. I guess you all got me
on this one for sure. I guess that it could be taken to an
extrememe , but was more curious because of the recent beacon
experiments from aa4xx.

73 brad WB8YGG

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: bfinch@asp.vet.purdue.edu (Robert Finch)
Subject: [1592] more antenna bull detected
Message-ID: <9512192010.AA27015@asp.vet.purdue.edu>

WHEN I MAKE MY OCCASIONAL CONTRIBUTIONS LONGER I GET
FLAK. WHEN I MAKE THEM SHORT (TERSE) I GET FLAK. MAYBE
I'LL BE ABLE TO LEARN SOMETHING FROM THIS.

ANYWAYS THE BULL DETECTOR FOUND SOME MORE POOP HERE.

AND I HAVE BEEN AWAY ONLY 6 HOURS OR SO.

PLEASE GUYS, IF YOUR GOING TO SUBMIT. BE AS LONG AS YOU
NEED BUT please GET IT RIGHT.

My SWR meter DOES read foward and reflected voltages, and
when used PROPERLY does NOT require that it be used at a
specific point a 1/2 wavelength or integer multiple from
the load. It can be used anywhere along a transmission
line and give me valid readings. If your meter gives
different readings (after allowing for normal line
losses) along a line then there might be rf on the
outside of his coax, or a busted swr meter, or a piece
of bogus test equipment.

IF YOU HAVE BEEN FOLLOWING ALONG THEN THE FOLLOWING HAS
MEANING FOR YOU.

SWR is not really a big issue. If it becomes one go
back to square one of your antenna system design. The
high swr BY ITSELF is not a targetting goal in system
design.

Kudos to LB,W4RNL for his excellent examination of Z
matching. I can tell he is someone to listen to. Worthy
reading material. Right on the money.

THERE NICE AND SHORT. HOPEFULLY NOT TOO TERSE.

IS EVERYONE HAPPY?

baab,n6cxb

ObQrp; If I am putting out 20watts and reflect 15 does
that mean only 5 watts get radiated?

OH YEAH THE EXTRA LINE FEEDS ARE A PROBLEM FOR SOME,
SORRY BUT IT ONLY really ADDS ONE CHARACTER TO THE END
OF A LINE, NOT A FULL LINE WORTH OF CHARACTERS. MY SUBMISSIONS
MIGHT APPEAR LONGER THAN THEY REALLY ARE?

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: torell@sicom.com (Kent Torell)
Subject: [1579] More propagation stuff
Message-ID: <v02130500acfc863993bb@[192.91.202.41]>

Received this announcement this am....mite prove helpful in looking at fox
results.....

----- snip -----

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: Mike Connor <mikec@primenet.com>
Subject: [1562] Mouse Paddles
Message-ID: <Pine.BSD.3.91.951218231339.8135B-1000000@usr2.primenet.com>

Gang,

I've been reading the thread on the mouse keys lately with some
interest, as I had often thought of this myself. Curiosity finally got

the best of me today and I picked up a broken one at work and brought it home to give it a try. The switches seemed to be fine, which is all I really cared about, so I cut the traces downstream of them to isolate them from the rest of the circuit and ran wires to the left and center button, with the right button unused. There was already a ground trace connecting all three buttons together, ground wire went there. Left button for dahs, center for dits. Stereo 1/8" phono on the other end and she was ready to go. Very minimal effort.

Operating it took a little getting used to, but not as much as I thought. It would certainly offer many advantages for backpacking and mobile operation. There also seems to be plenty of room for a keyer board inside (the little OHR keyer board comes to mind) if a person was so inclined. The only thing I noticed that I would change if I could is the touch of the buttons. Lotta travel between pushing down on the button and having the switch close, but I suppose I could get used to it. I will also note that this is an el cheapo mouse. A better quality mouse may have a better feel than the one I used.

All in all I'm pretty happy with it. It offers a real alternative to hauling a Bencher around.

FWIW,
Mike
NQ7K

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: Scott Rosenfeld NF3I <ham@w3eax.umd.edu>
Subject: [1604] MPW (miles per watt)
Message-ID: <Pine.3.89.9512191839.A323-01000000@w3eax.umd.edu>

Actually, Jupiter at its farthest is only about 570,000,000 miles from Earth. From what Zack said, this would be close, but is certainly not the winner.

Neptune is about 3,000,000,000 miles away. Have we received data from any Neptune probe yet? Is there a requirement of 2-way contact? Can that probe hear US as well as we can hear them?

And I though working Alaska on 5 watts with a dipole was a big thing :(

4,500 miles / 5 watts = 900 miles/watt. Not even close :(

Scott Rosenfeld NF3I Burtonsville, MD FM19 QRV 40-10/6/2/440
** Yes, you CAN do VHF contests with 25W and omni antennas **
Still stuck at 138 countries confirmed on HF w/dipoles...
72 & 73 from suburban DC 301-549-1022 (h) 301-982-1015 (w)

On Tue, 19 Dec 1995, charles copeland wrote:

```
> >
> >     Well, it sure sounds like there are a lot of categories
> > in this miles per watt measure.
>
> How about the Jupiter space probe? Bet that one wins it hands down.
> Something like 1 billion miles with somewhere between 3-35 watts.
> (can't remember exact figures)
>
> There was another probe that went to Uranus. That probably top
> the Jupiter probe for miles-per-watt.
>
> Anyone with exact numbers?
>
>
>
```

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: "J. Rains" <RAINS@nku.edu>
Subject: [1597] pcb prg & sound card question
Message-ID: <01HYZYIU9Y5ECVCINO@NKU.EDU>

Hello all. I was wondering if there is a program that will let me draw the schematic, and then will draw the board itself? If anyone knows of where I might pick up a program like this, please e-mail me.

And now to my second question. My sister has a Hewlett-Packard video card, and the guy she bought it from didn't give her the driver disk for it. It is set for 16 colors now, but will do more if she had the driver disk. Any help is greatly appreciated.

And here is my third plee for help. My sister needs a driver disk for her sound card. It is a very old sound blaster. It doesn't say sound blaster on it, it says the company's name. Again, any help here is also greatly appreciated.

Justin AA9KM

```

      _-==_-'-.
    /--' \_@-@.--<
    '--' \ \ <_--/.
          \ \ " /
          >=\ \_/'<
          /= | \_||/
    _-'-----\ \_/_== \_--/
= - _ _ _/=====
```


Justin Rains	My Dad's	
rains@nku.edu	Farts Smell Worse Than	
http://www.nku.edu/~rains/	Your Dad's	

=====

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: NYOUNG@nova.wright.edu
Subject: [1607] Postmodernist antennas, old club info
Message-ID: <01HZ02AYM0LU8X2KXS@nova.wright.edu>

Man, I am so glad that I got to learn about antennas and SWR and feed lines and feed troughs and oceanic wave shape troughs before all this QRP stuff became popular. Otherwise I would have to figure it out all over again every time I put up an antenna. But then, that's what I do.

I measure out the wire or the tubing or whatever and smootch it all together with solder and clamps and duct tape and a bag of fries and hoist it up to the top of the tower on the yardarm-avec-block-&-tackle rigging. Then my friend Larry (or some other poor ignorant dupe of the exploitative bourgeoisie lackies of imperialism) bolts it down on the rotator post and we try it out. If it don't work, we bring it down, consult the thoughts of Chairman Mao (and, yes, I do have a copy... in English) and try again. Eventually whatever I am doing to the antoona parts works and we go inside and salute the memory of Comandante Che Guevarra and listen to Fidel's latest speech. By then it's too late to try the antenna and we all go home. (You don't think I live in this madhouse, do you?) It's that simple: Put up the antenna. If it don't work, read some stuff, modify the sucker and put it back up. Eventually it'll work.

Which explains why I came across a mint condition 1978 ARRL handbook, a 1969 edition of the ARRL _Radio Amateur's Operating Guide_, a copy of FM 24-18 (_Field Radio Techniques_, US Army, 1965) and the original pile of paperwork that I got from the QRP ARCI back in 1973 when I spotted some QRPers at the Dayton HV, signing people up at a card table off the main concourse of imperialist revisionism and electronic reactionary doggism. And a 1982 copy of the Fair Radio Sales catalog.

Remember when you could have an associate membership in the the QRP ARCI? I do 'cause I almost signed up for it. It was only the encouragement that I got from my comrade in revolutionary

struggle for the past 20+ years that kept me from falling in with the downtrodden class of unliberated oppressed. Ah, them was the days, comrades! Too bad we all got old and stupid and forgot how antennas work and had to be filled in again, as recently between LOTS OF UPPERCASE LETTERS WHICH I never did understand the need for.

Or, as Beavis might say after 27 Mountain Dews and about three pounds of sugar donuts, a double-decker box of chocolates and 16 cups of coffee, "ARE YOU THREATENING ME? hehe heh heh..."

See, I kept it to less than 6 screens.

73

Nils

WB8IJN v

"Dejeme decirlo sin parecer ridiculo, que el revolucionario verdadero esta guiado por grandes sentimientos de amor."

Comandante Che Guevarra, 1963

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995

From: Bill Acito 19-Dec-1995 1234 <acito@asdg.ENET.dec.com>

Subject: [1586] Propagation

Message-ID: <9512191737.AA11337@us1rmc.bb.dec.com>

Anyone have a guideline/matrix of what each of the propogation activity indices mean (K, A, etc.)?

I found a neat WWW page that shows the K and A trends from WWV over time, but would like to understand what is a 'good' A or K.

I dug through the Handbook and the Antenna book last night to no avail.

b

. - I own my own words -

Bill Acito

acito@asdg.enet.dec.com

|d|i|g|i|t|a|l| Digital Equipment Corporation Hudson, MA

KC1GS ... qrp-ne ... qrp-1 ... qrp-arci ... norcal ... arrl life ...

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: Charles Lafkoff <cgl@tenet.edu>
Subject: [1589] QST Frequency Guide -- 17 Meters
Message-ID: <Pine.OSF.3.91.951219120436.15549A-1000000@Joyce-Perkins.tenet.edu>

Although QST did not specifically mention 17 meters for QRP work, sometime in the past year 18.086 MHz was suggested (from QRP-L?) as the QRP calling frequency. Lately, 18.076 MHz has been mentioned. Irrespective of what frequency becomes the de-facto meeting place, 17 meters has been pretty good from around 1800 UTC till dusk here in Spring, TX. Unfortunately, I don't work or hear too many QRP stations up there! Give it a try...you might be pleasantly surprised.

--Charlie WD5GNW @ 18.086

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: "Lau, Zack, KH6CP" <zlau@arrl.org>
Subject: [1590] Record Miles/watt
Message-ID: <30D7071B@arrl.org>

You can get some really amazing miles/watt scores by using microwaves and transmitting across a room.... Zack KH6CP/1 zlau@arrl.org

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: Harry_Chase@smtpgw.windata.com (Harry Chase)
Subject: [1596] Record Miles/watt
Message-ID: <9511198194.AA819417893@smtpgw.windata.com>

How about EME??? How low in power were they able to go when using the Arecibo dish??? That may be the record!!

Harry
WA1VVH

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: H Smith <hbs@crl.com>
Subject: [1577] Tuesday Fox schedule
Message-ID: <Pine.SUN.3.91.951219062114.23572A-100000@crl2.crl.com>

Third posting:

**** FOX SCHEDULE FOR TUESDAY 12/19/95 ****

Tuesday December 19,1995 --- NA5K Smitty

9:00 - 9:30 PM CST
3:00 - 3:30 AM UTC 7.040 +/-

9:30 - 10:00 PM CST
3:30 - 4:00 AM UTC 7.110 +/-

10:00 - 11:00 PM CST
4:00 - 5:00 AM UTC 7.040 +/-

It's been kinda noisy here, so lets hope for some good propagation and a let-up on the QRN.

I will be the one calling CQ FOX or QRZ FOX.

CU tonight,

Smitty, NA5K

Henry Smith (hbs@crl.com)

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: eleon@msu.edu (Dr. Edgar Leon)
Subject: [1576] unsubscribe
Message-ID: <acfc9618010210043219@[204.22.210.53]>

unsubscribe Edgar Leon wr8z

Edgar Leon
eleon@msu.edu
Michigan Department of Education

Migrant Education Consultant
(517)373-4582 Fax:(517)373-4589

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: bmitchel@kodak.com (Brad Mitchell)
Subject: [1582] what's the current reocrd
Message-ID: <9512191709.AA23476@iiatasun.cba.Kodak.COM>

What's the current record for miles/watt?
Who hold's it?
When was it attained?
Who keeps track of this?
Is it on a Web page?

73 Brad WB8YGG

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: George.Gingell@bbs.abs.net (George Gingell)
Subject: [1570] [RE: CW ACCENTS...
Message-ID: <1995Dec19.071349.14431@abs.net>

<Re: CW "Accents"...

<Got that beat, Last week I heard a 9-land station calling :

< dah di dah dit
< di dah di dah

<Swear to God. He must have forgot what a "Q" was, did this several
<times, with a call, and never got a response. Loud too!

<73 =paul= wb8zjl

!!!.....Could be a Dx Fox.....!!!

I thought that comment had a familiar ring to it...
I dug out a battered 1988 ARRL Handbook, Section 19-2 & 19-3.
I found no less than 7 other valid possibilities to my surprise.
No not Land line Morse either...(Actually din't check that one.)
The first was of course the Prosign AA, (Can't do Overstrike on this WP).

Which means All After [Usually used in message handling].

Then there are the "Cut Numbers" as in Short Cut, Which would make it "11"

Hmmm. I think we might be getting warm now. (Ex. CBer just getting on C.W.)

Hence "CQ 11" "WHAT ELSE"?

Then there is always the Tables of Foreign Language Morse Code Characters.

- is The European A with two little accent dots over it as used with latin alphabet.

Then we move over to Table on 19-3 Entry # 20 Yields four entries, Japanese Character ro, Arabic Character ain, Russian Character ya, and Greek Character alpha iota. That could make CQ "1" "alpha iota" ? Gee ain't this fun?

It is amazing how some people will let a little knowledge go to their head...

Just goes to show you that there is something here for everyone, you just have

too keep an open mind and your Flame Suit ON !

QRP DX TU (C) 1986, G. Danny Gingell, K3TKS @ bbs.abs.net

One more possiability - Could be a New Homebrew Keyboard - (Wrong Programming)

--

George Gingell, user of the UniBoard System @ abs.net

E-Mail: George.Gingell@bbs.abs.net

The WB3FFV Amateur Radio BBS - Located in Baltimore, Maryland USA

Supporting the Amateur Radio Hobby, and TCP/IP InterNetworking

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995

From: cebik@UTKVVX.UTCC.UTK.EDU

Subject: [1569] Re: Antennas, SWR, feed-ling length, & tuners

Message-ID: <Pine.PMDF.3.91.951219060833.543178363E-100000@utkvx.utk.edu>

Talk about "apparent SWR" may not be too helpful in figuring out what is happening along a transmission line. Let's try an alternative. If the antenna is not matched to the feedline, the value of the resistive and reactive components to the impedance change along the line, the exact values yielding everywhere along the line the same SWR as at the feedpoint (minus a small amount due to line losses.

It is the reactive component that is usually the culprit in an antenna tuner's inability to achieve a 1:1 matching situation. Depending on the exact details of the antenna-feedline mismatch, at certain points along the line, the reactance may reach thousands of ohms, a situation for which the components inside an ATU may not be able to compensate. Think of an ATU as first canceling the reactance at the pooint of connection and then

matching the remaining resistive value to the 50-ohm line to the TX. If the ATU output (antenna end) component does not have a wide enough range to do both, the SWR on the TX side of the ATU cannot reach 1:1.

However, at a different point on the transmission line (reached by either lengthening or shortening the line), the reactance will be at some other value, hopefully lower. It will fall within the range such that the ATU can cancel it with the equal opposite-type reactance and still have enough range to allow the ATU to match the resistive component. SWR on the TX side can now reach 1:1 (or close to it, if the ATU inductor is only tapped and not continuously variable).

The SWR on the antenna side of the tuner is still what it was at the antenna feedpoint (minus that small loss for reasonable lengths of high quality feedline), but the breakdown of the impedance into resistive and reactive components is now something the components inside the ATU can handle. Hence, the advice to change feedline length is still good.

SWR is not a function of antenna Z vs. Feedline Zo: rather, it is a complex function of the antenna R and X vs. Zo. The simplified cases in handbooks are based on letting $X=0$, in which case the complex case gets simplified, since antenna $Z=R$ only. However, if you use a single antenna for many bands, on most bands, you will have considerable X at the feedpoint. Excursions of reactance along the line are very interesting to follow. HAMCALC from VE3ERP has a program that tracks R and X for every 5 degrees along a user-specified transmission line given any set of conditions specified as the antenna feedpoint values for R and X. It can be instructive as to the values reached by X and why some lengths are not good ones to use, even with the widest ranging ATU. although the program calculates for lossless feedlines, it is close enough to real lines to help you understand what can happen--and why changing line length by a "small" amount can permit the ATU to bring the antenna-feedline situation under control.

-73-
LB, W4RNL

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: KE3FL@delphi.com
Subject: [1583] Re: Antennas, SWR, feed-line length, & tuners
Message-ID: <01HYZP1HBWW29GVTE9@delphi.com>

Again I want to thank everyone that responded. All comments further explanations and questions were welcome and good.

A number of folks took me to task for "Apparent SWR" and for "fooling the rig". Sorry folks. You are correct. There is NO "Apparent SWR" and one can not fool an inanimate object. ;-)

Still, let's not lose the points which are:

1. An SWR meter reads differently when placed along a coax run at different distances. That is, adding coax to your system WILL change the SWR reading. (So, what do YOU call this? It can't be called SWR because it is not the SWR at the feed-point. So, again, what do you call it?) It's the old point of knowing which tool to use and how to use it. An SWR meter is designed to read SWR at an electrical half wavelength (EHWL) of feed-line at the wavelength (WL) of interest. Nothing more, nothing less. It does NOT give correct readings when used at an arbitrary distance from the feed-point.

NOTE: This feature can be used to check the SWR of your feed-point in the following way: Once you believe you are at the EHWL and you have tuned the antenna to 1:1 (NOT with a tuner, but by changing shape, length, height above ground, etc) add a length of coax equal to $1/4$ WL of the WL of interest and measure the SWR again. This is the worst position for the SWR meter (its at the 90 degree point from the EHWL) and if there is ANY reflected energy coming back (you might NOT have been at a true EHWL) the meter will be able to measure it. If you were in fact at an EHWL and the SWR is truly 1:1 then you will once again read 1:1 since there is no reflected energy.

2. Adding a few feet of coax does NOT change the SWR. By definition the Standing Wave Ratio is a ratio of stuff going out to stuff coming back and simply lengthening the coax can not change this. I like to think of it as simply the RF energy going out to the RF energy coming back. This is NOT correct, because if an SWR meter actually read the RF E out vs RF E back it would read the SWR no matter where along the coax you measured. So in this case you do need to be careful of what you think. Perhaps this is why some think that an SWR meter reading of 1:1 at a non-EHWL makes them safe. Perhaps I am doing a dis-service using that concept? Suggestions here are welcome. Is there an easy concept to use? What we're dealing with is the REAL stuff vs what the real-life meter does.
3. Adding coax does NOT protect your transistor finals from a returning RF hit, even if your SWR meter says the SWR is 1:1 because you added coax to get it to say so.
4. Use an antenna tuner which does change the SWR the rig "sees" and protects the rig by re-reflecting the RF back to the antenna,

yes and losing some of it too. (I know, I know, a rig doesn't have eyes. I got words from Rick WZ2T- BA & MA Psychology, to mention only one, for my use of "fooling the rig", next I'll get them from biologists. Please forgive this humble physicist.) ;-)

I see I'll have to pay more attention to my words since you are getting hung up there rather than in the content. ;-)

QUESTION: With a given feedline and antenna you cut the system to a perfect (?) match, and lets assume you did this with 60 ft. of feed line to the antenna.

If you change the feedline to...say 100 ft. to the same antenna are you suggesting that you will still have a perfect match?

ANSWER: I believe my explanation above covers this, but...

1) This is the typical situation. It's how I started too. Build an antenna, and test it with an SWR meter at some length of coax. Tune the antenna until you get 1:1, or the best you can get. Now you're safe & on the air! Wrong & Right, at least for awhile. Your rig may not be safe. If the 60 feet was an electrical quarter WL the true SWR will be considerably different than that being read by the meter at 100 ft (if 100 ft is NOT an electrical quarter WL.)
From experience: I did exactly this, I built a 2-meter J-pole and tuned it with 50 ft of coax ($v_f = .78$) Center WL of 146 MHz = 2.08 meters = 82.02 in = 6.84 ft. A half WL = 3.42 ft. $(50/.78)/3.42 = 16.74$ This is NOT an EHWL, NOTE an EHWL = $3.42 * .78 = 2.67$ ft 19 of these gives: 50.68 ft off by .68 feet = $.68/2.67$ about 25%.
When I added a few more feet the SWR meter was no longer at the same electrical position and the SWR changed. I had to think about it for some time before I understood what had happened. (I make J-pole kits for ARES/RACES groups. I now supply enough coax and explanation so that people make the coax an EHWL long.)

INTERESTING PROJECT: Tune an antenna for 1:1 SWR while using an electrical quarter WL of coax. Add enough coax to now make it an EHWL. What would the change in SWR reading be? Is the real SWR dangerous? Perhaps someone (W4RNL) can model this on the computer for us and let us know?

2) IF the 60ft was an EHWL for the WL of interest, and you tuned for 1:1 then changing to 100 ft will NOT affect the SWR reading AT THAT FREQUENCY ONLY. If it was NOT, then yes, you will get a different reading. Also, all

other non-matched frequencies will show different SWRs.

Thanks to Paul/NA5N for the data sheet on coax. Missed RG-8X ?

73 de KE3FL/Phil
:-)

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: KE3FL@delphi.com
Subject: [1584] Re: Antennas, SWR, feed-line length, & tuners - #2 on AD5X
comments
Message-ID: <01HYZP2TNRXK9GVTE9@delphi.com>

Going back to Phil/AD5X's statement, and my answer:

>From Phil - AD5X:

Phil - Changing feedline length and characteristic impedance can change SWR. Example, a 100 ohm impedance antenna fed with a 1/4 wave 72 ohm transmission line has a 1:1 SWR. The 72 ohm line transforms the 100 ohms to 50 ohms, and the same line transforms the 50 ohm transmitter to the 100 ohm antenna. There is no reflected power. The same thing can happen anytime the antenna impedance is different than the transmission line impedance - i.e. you can change the system impedance at the transmitter maybe making it easier to match.

KE3FL/Answer: Yes I will give you that, but what you have here is an antenna matching circuit, a tuner, granted a dedicated tuner or matching circuit at the feed-point to the antenna. This is NOT the same as putting another 20 feet of 50 ohm coax at the end of a run of 100 feet of coax to "transform" the SWR down to 1:1 in your shack!

Why does this work? This is physics again, don't get scared folks, it's not difficult! First we have a reflection from the interface of the 50 and 72 ohm coax, then we have an electrical quarter wavelength of 72 ohm coax and another reflection at the 72 ohm and 100 impedance antenna. Now, this has to do with what is called constructive and destructive interference. The reflection from the coax/antenna interface meet up with the reflection from the 50/72 ohm coax interface 180 degrees out of phase (1/2 wavelength = 1/4 to the antenna and 1/4 on the way back). Being 180 degrees out of phase the two waves cancel each other out (IF they are of EQUAL magitute) this is called destructive interference. Bye the way, the new "sound cancelers" coming on the market work on exactly the same principle. When I was younger, and my ears could hear up above 18000 CPS I use to find it very painful to enter a jewlery store that used "ultrasonic"

alarm systems. I would have to find a destructive interference node in the shop and stand there waiting for my girlfriend to finish looking around. Sure wish I'd had one of the new sound cancelers back then! But, my ears aged and I can no longer hear these alarm systems, nor can I hear the TV horizontal circuits any longer, though that could also be due to the fact that they are now produced using inverting circuits and not "flyback" transformers.

Interesting questions: For the above hypothetical antenna (100 ohms) and 1/4 wave of 72 ohm coax, what is the SWR at the 50/72 ohm interface (OI)? What is the SWR at the 72/100 OI? How much energy is reflected back to the radio from the 50/72 OI how much is reflected back from the 72/100 OI? How much energy goes through the 75/50 OI (from the antenna back to the radio)? Do they truly have the same magnitude to cancel perfectly? Hints: look at you Now you're talking, THE ARRL Handbook, or the ARRL Antenna book, among many others. Pick a frequency and run the calculations. Try it with another frequency. How far off the design frequency can you go before the mismatch increases the overall SWR to 2:1 again? There's a good deal of work required to figure this one out, but if you have a computer or programmable calculator (remember those?) it shouldn't be too difficult. Last hint, if you don't have any book that can help with the numbers make some up that DO cause a perfect cancellation and then do the rest. This is really interesting stuff, but then I'm a ham and a physicist! ;-)

73 de KE3FL/Phil
:-)

From qrp-l@lehigh.edu Tue Dec 19 21:15:18 1995
From: Stan Skelton <sskelton@cln.etc.bc.ca>
Subject: [1580] Re: antennus pontificatus
Message-ID: <Pine.3.89.9512190819.A23289-01000000@sparky>

Right on!...
73's Stan...VE7SKT ***QRP-L # 34 ***

From qrp-l@lehigh.edu Tue Dec 19 21:15:18 1995
From: Johnson_Dan@AAC.COM
Subject: [1593] Re: antennus pontificatus

Message-ID: <9512192223.22762.ae@SMROUTER.AAC.COM>

As I understand it, four things are essential to superb QRP operating:

1. Operating skill
2. Good ears
3. Good antennas
4. Good receivers

Good antennas are the most difficult to attain because they must accommodate the particulars of each installation. This is the source of much of the confusion.

Don't let anyone kid you. Unlike receivers and transmitters, cookbook solutions don't exist. You can't say "build this antenna and feed it that way and it'll work for you like it does me". It may very well work better or worse, and if worse, the corrections are often specific to the site. It becomes yet more difficult when compromises are necessary, and for most of us, they are.

So if you're confused by the various postings of the thread, use that as motivation to get out there and try some experiments yourself. Build some new antennas or try matching feedline to antenna impedences. Make your measurements, make your comparisons, learn something new, and improve the effectiveness of your QRP station. Persistence really pays off: if you become discouraged and give up, you deny yourself satisfying insights. If this isn't germane to QRP, I don't know what is.

If you have questions, freely ask them. There is no such thing as a dumb question, and we are here to help each other regardless of where we are on the learning curve. There are, unfortunately, such things as intolerant, selfish, reactionary, impatient people, and we find them everywhere. Just let them stew in their own juices and deny them the audience they seek.

Some of the postings on this thread are better written and more useful than a lot of the antenna literature for which I've paid money. Others could stand some review and editing before posting. (Nearly all mail programs have a way to insert a pre-prepared text file in the body of a message, you just gotta figure out how to use it. It's a good way to produce large, technical posts.) We must understand, however, that antenna systems are something about which many are passionate. I would rather see corrective posts than suppress that passion.

72 de KC4EWT
Johnson_Dan@aac.com

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: W3HMS@aol.com
Subject: [1601] Re: Care and Feeding of Deep Cycle Batteries?

Message-ID: <951219174104_94717213@mail04.mail.aol.com>

Gary....although I did not read it...yet.....there is about 2 pages in the 96 ARRL Handbook I recommend for you in Chapter 11 as a starter. 73, John, W3HMS

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: n2mnn@openix.com (STEVEN PITUCH)
Subject: [1610] Re: Care and Feeding of Deep Cycle Batteries?
Message-ID: <199512200114.UAA26709@pantera.openix.com>

Greg,
I needed the same info a few months ago. I bought a deep cycle battery from Sears. They could not give me any information on caring for it. I found out the batteries are made by Exide.

The Web page has many answers. <http://204.170.84.25/power/default.htm>

Their E-Mail is: web@notes.exideworld.com

I e-mailed them 3 pages of questions and their reply was very detailed.

In summary:
Full charge open circuit voltage is 12.72 Volts. But this is only after a brief discharge, or waiting a day for the surface charge to disipate. Need approximately 13.8 Volts from charger to recharge, but 14.8 Volts from a total discharged state. Battery will start to gas at about 13.75 Volts. This is normal. Use a hydrometer to determine charge. sg = 1.265-1.285. For low amp draws, do not let the battery go below 10.5 Volts. Batteries below 12.50 Volts in storage should be recharged. Float charge is 13.2-13.4 Volts.

Please confirm these numbers with Exide again yourself just to be sure, but they have worked for me.

73,

Steve Pituch, N2MNN
N2MNN@OPENIX.COM

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: "rohre" <rohre@arlut.utexas.edu>

Subject: [1605] RE: Looking for "Radio Frequency Design"
Message-ID: <n1392727998.20667@msmailgw1.arlut.utexas.edu>

Svein, and group,

There may be some more who need this: "RF Design" subscription card from P. O. Box 1077, Skokie, IL 60076-9931. This is a controlled circulation (free to qualified readers) (and supported by advertisers) magazine published monthly and edited by Gary A. Breed, designer of the A&A Engineering QRP rig. By qualified readers, those in RF design fields like research, engineering application, consulting, etc. This has very good items from time to time of a tutorial nature, or even designs that could be adapted to amateur radio. The issue I got the adr. from has "Manufacturing Considerations for the design of RF Products", and "Notes on Power Supply Coupling" (...isolating power supply lines from RF signals...) Oct. 1993. They sell back issues if available for \$5. Also on microfilm, from University Microfilms Inter., Ann Arbor MI, (313) 761-4700.

72 all and Happy Holidays!
Stuart K5KVH
rohre@arlut.utexas.edu

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: "David D. Meacham" <ddm@datatamers.com>
Subject: [1608] Re: Looking for "Radio Frequency Design"
Message-ID: <Pine.LNX.3.91.951219154402.3431D-100000@dt1.datatamers.com>

Svein,
There is a magazine called "RF design". Contact the Editorial Office at 6300 S. Syracuse Way, Suite 650, Englewood, CO 80111. (303) 220-0600. The Editor is Gary A. Breed, a fellow QRPer.
72, Dave, W6EMD

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: charles1@netcom.com (charles copeland)
Subject: [1603] Re: Miles per watt.
Message-ID: <199512192248.0AA25258@netcom2.netcom.com>

>
> Well, it sure sounds like there are a lot of categories
> in this miles per watt measure.

How about the Jupiter space probe? Bet that one wins it hands down.
Something like 1 billion miles with somewhere between 3-35 watts.

(can't remember exact figures)

There was another probe that went to Uranus. That probably topped the Jupiter probe for miles-per-watt.

Anyone with exact numbers?

From qrp-l@lehigh.edu Tue Dec 19 21:15:18 1995
From: W3HMS@aol.com
Subject: [1602] Re: more antenna bull detected
Message-ID: <951219174106_94717248@emout04.mail.aol.com>

For all.....perhaps a citation to ARRL pubs by Chapter and page would save time space and errors and we would all gain more knowledge about antennas and matching....a real WIN ,WIN ,WIN situation, 73, John, W3HMS

From qrp-l@lehigh.edu Tue Dec 19 21:15:18 1995
From: kd7s@valleynet.com (Bill Jones)
Subject: [1575] Re: Mouse Paddles
Message-ID: <199512191403.GAA08886@sierra.valleynet.com>

Mike Connor, NQ7K, wrote about using a mouse as paddles:

>The only thing I noticed that I would change if I could is the touch of
>the buttons. Lotta travel between pushing down on the button and having
>the switch close, but I suppose I could get used to it. I will also note that
>this is an el cheapo mouse. A better quality mouse may have a better feel
>than the one I used.

Mike,

I have converted dozens of mice and they ALL have a different feel. Some I like and some I don't. That's why I check out each dead mouse that comes across my desk for *feel* and if it's sloppy or stiff I toss it. The rest follow me home. Some of my best paddles were from cheapies, by the way. It won't be too long before you start getting strange looks when you get caught sending CW on every mouse in your office.

=====
Bill Jones - KD7S <><
QRP-L Member #85
Sanger, California
Reply to kd7s@valleynet.com
=====

From qrp-l@lehigh.edu Tue Dec 19 21:15:18 1995
From: "Todd W. Carter" <tcarter@access.digex.net>
Subject: [1558] Re: QRP-L digest 213
Message-ID: <Pine.SUN.3.91.951218221806.338A-1000000@access2.digex.net>

info

From qrp-l@lehigh.edu Tue Dec 19 21:15:18 1995
From: Michael Effron <meffron@acy.digex.net>
Subject: [1567] Re: QRP-L digest 213
Message-ID: <Pine.SUN.3.91.951219054346.9778D-1000000@acy1.digex.net>

> Date: Mon, 18 Dec 95 08:13:38 CST
> From: kreinbd@ccgate.dl.nec.com (David Kreinberg)
> To: qrp-l@Lehigh.EDU
> Subject: [1506] 40M - WHAT GIVES?
> Message-ID: <9511188193.AA819303218@smtpgw.ccgate.dl.nec.com>

>
> Has 40 meters been in bad shape lately? I'm
> pretty sure my antenna is doing a fair job, as
> I can do a good job on 20M. But my 40M success
> has been mediocre, at best.
>
> Let me know what you all have experienced on 40
> lately!
>
> 73
> Brad WB8YGG

> -----
12-2-95 7.041 1031UTC KB1AVN Jon NH
12-6-95 7.047 0944UTC N6UMN Don CA
12-7-95 7.029 0927UTC XE1ABE Hugo
12-8-95 7.045 1028UTC KE4UAQ Ben MS
12-16-95 7.040 0853UTC KB5IFV Jim AR 2xQRP

Brad, I run an HW-8 and an 80 mtr tuned doublet. If you or anyone else on the list finds yourself up at this un-godly hour (I'm a confirmed early-bird), I'd be more than happy to set up a sked for any testing.

The past few days has found 40 mtrs a bit noisy. Last week I was hearing some beautiful grayline to Europe and the Pacific.

73 - Mike
meffron@acy.digex.net
ka2pqy@nx2b.ampr.org

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: "Lau, Zack, KH6CP" <zlau@arrl.org>
Subject: [1598] RE: Record Miles/watt
Message-ID: <30D73A21@arrl.org>

>How about EME??? How low in power were they able to go when using
>the Arecibo dish??? That may be the record!!
>
>Harry
>WA1VVH
I estimate around 450,000,000 miles/watt using Arecibo on 432 (I think
this is their best band). -150 dBm receiver is probably a little
optimistic,
the antenna isn't seeing cold sky.

By contrast, a pair of 10 dBi horns on 2304 MHz spaced 10 meters apart
has about 39 dB of path loss. Roughly 786,000,000 miles per watt.
You can improve one side of the link considerably by mounting it so
the background is cold sky. You might also optimize the appropriate
horns for gain and gain/temperature. Now, if you shorten the path
even more... Zack KH6CP/1

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: torell@sicom.com (Kent Torell)
Subject: [1606] RE: Record Miles/watt
Message-ID: <v02130501acfcf4f08819@[192.91.202.41]>

>By contrast, a pair of 10 dBi horns on 2304 MHz spaced 10 meters apart
>has about 39 dB of path loss. Roughly 786,000,000 miles per watt.

Zack;

You forgot to change milliwatts to watts; I get 1000 times more!

Now, having confused the group thoroughly, an explanation of these numbers and "non-intuitive" nature of the behavior.

Zack defined the performance based on a receiver sensitivity of -150 dBm. This is a rough equivalent of a 100 Hz bandwidth receiver with a 4 dB noise figure. Or, a 25 Hz bandwidth receiver with a 10 dB noise figure.

He then connected this receiver to a 10 dBi antenna (dB gain over isotropic) and placed it 10 meters away from a similar antenna connected to a transmitter at 2.3 GHz. The theoretical path loss is 39 dB from standard formula:

free space path loss, dB = $96.6 + 20\log(f, \text{GHz}) + 20\log(d, \text{mi}) - \text{antenna gain}$

To receive -150 dBm, the transmitter has to put out -111 dBm, or -141 dBw. 10 meters is 0.0062 miles; miles per watt is $0.0062 / (10^{(-14.1)})$ or 782,000,000,000 miles per watt.

What is non-intuitive here is that "miles per watt" implies linear communications performance with distance; path loss actually increases as the square of the distance, so it is 4 times harder to go 2 miles than 1 mile.

If we move the receiver 100 meters away, 10 times farther, the path loss will increase by 20 dB to 59 dB. The transmitter now has to put out -91 dBm, or -121 dBw. The miles per watt is now only 78,000,000,000 miles per watt; 10 times worse.

So what? Well, we might guess that the longest miles per watt awards will go to the people with the lowest power and the shortest distances, i.e. milliwatts and hundreds of miles. The confounding variable in this prediction is the ionosphere; the path loss is increased by its reflection, and as the angle of reflection increases, its loss goes up. So, who knows? Sounds like an opportunity for more QRP fun!

72, AB70A

Kent Torell torell@sicom.com 602-483-2867
SICOM 7585 E. Redfield, #202 Scottsdale, AZ 85260

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: "Lau, Zack, KH6CP" <z1au@arrl.org>
Subject: [1609] RE: Record Miles/watt

Message-ID: <30D75DE0@arrl.org>

> You forgot to change milliwatts to watts; I get 1000 times more!
Right.

>Zack defined the performance based on a receiver sensitivity of -150 dBm.
>This is a rough equivalent of a 100 Hz bandwidth receiver with a 4 dB noise
>figure. Or, a 25 Hz bandwidth receiver with a 10 dB noise figure.
>72, AB7OA

You can get 2 dB NF these days with an \$8 GaAs MMIC.
Amazingly, you can put an \$6 ATF 36077 (Newark Catalog)
ahead of it and drop to noise figure to an astounding 0.4 dB
at 2304 MHz--not much worse than people get at 70 cm.

The way technology is going, by the time Phase 3D is
launched, building a S band receiver for satellite work
will be easier than one for 2 meters. Zack KH6CP/1

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: "David D. Meacham" <ddm@datatamers.com>
Subject: [1561] Re: torrids
Message-ID: <Pine.LNX.3.91.951218203244.24133F-100000@dt1.datatamers.com>

Wayne,

I measure toroids on my Auttek RF Analyst at the frequency of interest. I
just poke one lead into the center of the female UHF connector and press
the other one against the outside with my left thumb, springing the inner
one against the collet. This way, lead length is minimized and the whole
operation goes quite fast after a few tries.

72, Dave, W6EMD

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: N5EM@aol.com
Subject: [1587] Re: what's the current record
Message-ID: <951219124737_75927373@emout06.mail.aol.com>

In a message dated 95-12-19 12:12:07 EST, you write:

> What's the current record for miles/watt?
> Who hold's it?
> When was it attained?
> Who keeps track of this?
> Is it on a Web page?
>

Sounds like a Chuck question dit dit?

Ed

From qrp-1@lehigh.edu Tue Dec 19 21:15:18 1995
From: Frank@yorks.demon.co.uk (Frank Lee)
Subject: [1563] Re: Yaesu FT747 mods
Message-ID: <198@yorks.demon.co.uk>

hi! Well I've mentioned this before but here goes again. I managed to find a FT747 which in it's QRO state was unstable, PA wise. Apparently it is a common problem with that rig. I only paid peanuts for it, so decided to mod it for QRP use only. I had a look at the PA, which is easy to work on, as it is in a separate die cast box. I first disabled the output transistors, then took the RF o/p from about four turns link on the driver output toroid to the o/p circuitry. Now it works on QRP only, all bands and all modes. I don't expect you will want to do the above, but it does solve two problems 1 it gets round the instability often found with 747's (OK, most are no bother) and 2 you get a good qrp only transceiver.

Have fun!

--

Frank G3YCC
G QRP 042